

SEQUENCE LISTING

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SANTORO, Lyse

PERRON, Herve

<120> USE OF A POLYPEPTIDE FOR DETECTING, PREVENTING OR TREATING A
PATHOLOGICAL CONDITION ASSOCIATED WITH A DEGENERATIVE, NEUROLOGICAL OR
AUTOIMMUNE DISEASE

<130> 111664

<140> 10/030,937

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<210> 1

<211> 4393

<212> PRT

<213> Homo sapiens

<400> 1

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Gly	Arg	Leu	Leu	Ala	Val	Thr	His	Gly	Leu	Arg	Ala	Tyr	Asp	Gly	Leu
		20						25					30		

Ser	Leu	Pro	Glu	Asp	Ile	Glu	Thr	Val	Thr	Ala	Ser	Gln	Met	Arg	Trp
		35					40					45			

Thr	His	Ser	Tyr	Leu	Ser	Asp	Asp	Glu	Asp	Met	Leu	Ala	Asp	Ser	Ile
	50					55					60				

Ser	Gly	Asp	Asp	Leu	Gly	Ser	Gly	Asp	Leu	Gly	Ser	Gly	Asp	Phe	Gln
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Met	Val	Tyr	Phe	Arg	Ala	Leu	Val	Asn	Phe	Thr	Arg	Ser	Ile	Glu	Tyr
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Ser	Pro	Gln	Leu	Glu	Asp	Ala	Gly	Ser	Arg	Glu	Phe	Arg	Glu	Val	Ser
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Glu Ala Val Val Asp Thr Leu Glu Ser Glu Tyr Leu Lys Ile Pro Gly
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 Asp Gln Val Val Ser Val Val Phe Ile Lys Glu Leu Asp Gly Trp Val
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 Phe Val Glu Leu Asp Val Gly Ser Glu Gly Asn Ala Asp Gly Ala Gln
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 Ile Gln Glu Met Leu Leu Arg Val Ile Ser Ser Gly Ser Val Ala Ser
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 Tyr Val Thr Ser Pro Gln Gly Phe Gln Phe Arg Arg Leu Gly Thr Val
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 Pro Gln Phe Pro Arg Ala Cys Thr Glu Ala Glu Phe Ala Cys His Ser
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 Tyr Asn Glu Cys Val Ala Leu Glu Tyr Arg Cys Asp Arg Arg Pro Asp
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 Cys Arg Asp Met Ser Asp Glu Leu Asn Cys Glu Glu Pro Val Leu Gly
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 Arg Pro Glu Thr Thr Ile Met Arg Gln Pro Pro Val Thr His Ala Pro
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 Gln Pro Leu Leu Pro Gly Ser Val Arg Pro Leu Pro Cys Gly Pro Gln
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 Glu Ala Ala Cys Arg Asn Gly His Cys Ile Pro Arg Asp Tyr Leu Cys
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 Asp Gly Gln Glu Asp Cys Glu Asp Gly Ser Asp Glu Leu Asp Cys Gly
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 Pro Pro Pro Pro Cys Glu Pro Asn Glu Phe Pro Cys Gly Asn Gly His
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 Cys Ala Leu Lys Leu Trp Arg Cys Asp Gly Asp Phe Asp Cys Glu Asp
 340 345 350
 Arg Thr Asp Glu Ala Asn Cys Pro Thr Lys Arg Pro Glu Glu Val Cys
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 Gly Pro Thr Gln Phe Arg Cys Val Ser Thr Asn Met Cys Ile Pro Ala
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 Ser Phe His Cys Asp Glu Glu Ser Asp Cys Pro Asp Arg Ser Asp Glu
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 Phe Gly Cys Met Pro Pro Gln Val Val Thr Pro Pro Arg Glu Ser Ile
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Val Pro Ala Pro Phe Leu Ile Asn Trp Arg Leu Asn Trp Gly His Ile
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 Pro Ser Gln Pro Arg Val Thr Val Thr Ser Glu Gly Gly Arg Gly Thr
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 Leu Ile Ile Arg Asp Val Lys Glu Ser Asp Gln Gly Ala Tyr Thr Cys
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 Glu Ala Met Asn Ala Arg Gly Met Val Phe Gly Ile Pro Asp Gly Val
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 Val His Asp Ser Phe Trp Ala Leu Pro Glu Gln Phe Leu Gly Asn Lys
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 Val Asp Ser Tyr Gly Gly Ser Leu Arg Tyr Asn Val Arg Tyr Glu Leu
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 Arg Val Pro Gly Gly Pro Tyr Leu Gly Thr Cys Ser Gly Cys Ser Cys

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Phe Phe	Gly	Asp	Ala	Met	Lys	Ala	Thr	Ala	Thr	Ser	Cys	Arg	Pro	Cys
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Pro Cys	Pro	Tyr	Ile	Asp	Ala	Ser	Arg	Arg	Phe	Ser	Asp	Thr	Cys	Phe
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Leu Asp	Thr	Asp	Gly	Gln	Ala	Thr	Cys	Asp	Ala	Cys	Ala	Pro	Gly	Tyr
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Thr Gly	Arg	Arg	Cys	Glu	Ser	Cys	Ala	Pro	Gly	Tyr	Glu	Gly	Asn	Pro
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Ile Gln	Pro	Gly	Gly	Lys	Cys	Arg	Pro	Val	Asn	Gln	Glu	Ile	Val	Arg
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Cys Asp	Glu	Arg	Gly	Ser	Met	Gly	Thr	Ser	Gly	Glu	Ala	Cys	Arg	Cys
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Met Gly	Val	Ser	Arg	His	Cys	Thr	Ser	Ser	Ser	Trp	Ser	Arg	Ala	Gln
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Leu Glu	His	His	Val	Ala	Gln	Glu	Pro	Ser	Pro	Gly	Gln	Pro	Ser	Thr
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Val Glu Glu Gln Arg Ser Gln Ser Val Arg Pro Gly Ala Asp Val Thr 1780	1785	1790
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Thr Arg Leu His Asn Gly Lys Leu Pro Thr Arg Ala Met Asp Phe Asn 1810	1815	1820
Gly Ile Leu Thr Ile Arg Asn Val Gln Leu Ser Asp Ala Gly Thr Tyr 1825	1830	1835 1840
Val Cys Thr Gly Ser Asn Met Phe Ala Met Asp Gln Gly Thr Ala Thr 1845	1850	1855
Leu His Val Gln Ala Ser Gly Thr Leu Ser Ala Pro Val Val Ser Ile 1860	1865	1870
His Pro Pro Gln Leu Thr Val Gln Pro Gly Gln Leu Ala Glu Phe Arg 1875	1880	1885
Cys Ser Ala Thr Gly Ser Pro Thr Pro Thr Leu Glu Trp Thr Gly Gly 1890	1895	1900
Pro Gly Gly Gln Leu Pro Ala Lys Ala Gln Ile His Gly Gly Ile Leu 1905	1910	1915 1920
Arg Leu Pro Ala Val Glu Pro Thr Asp Gln Ala Gln Tyr Leu Cys Arg 1925	1930	1935
Ala His Ser Ser Ala Gly Gln Gln Val Ala Arg Ala Val Leu His Val 1940	1945	1950
His Gly Gly Gly Gly Pro Arg Val Gln Val Ser Pro Glu Arg Thr Gln 1955	1960	1965
Val His Ala Gly Arg Thr Val Arg Leu Tyr Cys Arg Ala Ala Gly Val 1970	1975	1980
Pro Ser Ala Thr Ile Thr Trp Arg Lys Glu Gly Gly Ser Leu Pro Pro 1985	1990	1995 2000
Gln Ala Arg Ser Glu Arg Thr Asp Ile Ala Thr Leu Leu Ile Pro Ala 2005	2010	2015
Ile Thr Thr Ala Asp Ala Gly Phe Tyr Leu Cys Val Ala Thr Ser Pro 2020	2025	2030
Ala Gly Thr Ala Gln Ala Arg Ile Gln Val Val Val Leu Ser Ala Ser 2035	2040	2045
Asp Ala Ser Gln Pro Pro Val Lys Ile Glu Ser Ser Ser Pro Ser Val 2050	2055	2060

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 Ser Tyr Thr Pro Val Pro Gly Ser Thr Arg Pro Ile Arg Ile Glu Pro
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 Ala Ser Ile Thr Val Thr Val Thr Gly Thr Gln Gly Ala Asn Leu Ala
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 Gln Ser His Ala Gln Val Thr Trp His Lys Arg Gly Gly Ser Leu Pro
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Val Arg His Gln Thr His Gly Ser Leu Leu Arg Leu Tyr Gln Ala Ser
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 Pro Leu Glu Ala Ser Val Leu Val Thr Ile Glu Pro Ala Gly Ser Val
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 Pro Ala Leu Gly Val Thr Pro Thr Val Arg Ile Glu Ser Ser Ser
 2435 2440 2445
 Gln Val Ala Glu Gly Gln Thr Leu Asp Leu Asn Cys Leu Val Ala Gly
 2450 2455 2460
 Gln Ala His Ala Gln Val Thr Trp His Lys Arg Gly Gly Ser Leu Pro
 2465 2470 2475 2480
 Ala Arg His Gln Val His Gly Ser Arg Leu Arg Leu Leu Gln Val Thr
 2485 2490 2495
 Pro Ala Asp Ser Gly Glu Tyr Val Cys Arg Val Val Gly Ser Ser Gly
 2500 2505 2510
 Thr Gln Glu Ala Ser Val Leu Val Thr Ile Gln Gln Arg Leu Ser Gly
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 Ser His Ser Gln Gly Val Ala Tyr Pro Val Arg Ile Glu Ser Ser Ser
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 Ala Ser Leu Ala Asn Gly His Thr Leu Asp Leu Asn Cys Leu Val Ala
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 Ser Gln Ala Pro His Thr Ile Thr Trp Tyr Lys Arg Gly Gly Ser Leu
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 Pro Ser Arg His Gln Ile Val Gly Ser Arg Leu Arg Ile Pro Gln Val
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 Thr Pro Ala Asp Ser Gly Glu Tyr Val Cys His Val Ser Asn Gly Ala
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 Pro Thr Val Val Glu Gly Gln Thr Leu Asp Leu Asn Cys Val Val Ala
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 Arg Gln Pro Gln Ala Ile Ile Thr Trp Tyr Lys Arg Gly Gly Ser Leu
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 Ser Val Ala Asp Ser Gly Glu Tyr Val Cys Arg Ala Asn Asn Asn Ile
 2690 2695 2700
 Asp Ala Leu Glu Ala Ser Ile Val Ile Ser Val Ser Pro Ser Ala Gly

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Ser Pro Ser Ala Pro Gly Ser Ser Met Pro Ile Arg Ile Glu Ser Ser	2725	2730	2735
Ser Ser His Val Ala Glu Gly Glu Thr Leu Asp Leu Asn Cys Val Val	2740	2745	2750
Pro Gly Gln Ala His Ala Gln Val Thr Trp His Lys Arg Gly Gly Ser	2755	2760	2765
Leu Pro Ser Tyr His Gln Thr Arg Gly Ser Arg Leu Arg Leu His His	2770	2775	2780
Val Ser Pro Ala Asp Ser Gly Glu Tyr Val Cys Arg Val Met Gly Ser	2785	2790	2795
Ser Gly Pro Leu Glu Ala Ser Val Leu Val Thr Ile Glu Ala Ser Gly	2805	2810	2815
Ser Ser Ala Val His Val Pro Ala Pro Gly Gly Ala Pro Pro Ile Arg	2820	2825	2830
Ile Glu Pro Ser Ser Ser Arg Val Ala Glu Gly Gln Thr Leu Asp Leu	2835	2840	2845
Lys Cys Val Val Pro Gly Gln Ala His Ala Gln Val Thr Trp His Lys	2850	2855	2860
Arg Gly Gly Asn Leu Pro Ala Arg His Gln Val His Gly Pro Leu Leu	2865	2870	2875
Arg Leu Asn Gln Val Ser Pro Ala Asp Ser Gly Glu Tyr Ser Cys Gln	2885	2890	2895
Val Thr Gly Ser Ser Gly Thr Leu Glu Ala Ser Val Leu Val Thr Ile	2900	2905	2910
Glu Pro Ser Ser Pro Gly Pro Ile Pro Ala Pro Gly Leu Ala Gln Pro	2915	2920	2925
Ile Tyr Ile Glu Ala Ser Ser Ser His Val Thr Glu Gly Gln Thr Leu	2930	2935	2940
Asp Leu Asn Cys Val Val Pro Gly Gln Ala His Ala Gln Val Thr Trp	2945	2950	2955
Tyr Lys Arg Gly Gly Ser Leu Pro Ala Arg His Gln Thr His Gly Ser	2965	2970	2975
Gln Leu Arg Leu His His Val Ser Pro Ala Asp Ser Gly Glu Tyr Val	2980	2985	2990
Cys Arg Ala Ala Gly Gly Pro Gly Pro Glu Gln Glu Ala Ser Phe Thr	2995	3000	3005
Val Thr Val Pro Pro Ser Glu Gly Ser Ser Tyr Arg Leu Arg Ser Pro	3010	3015	3020
Val Ile Ser Ile Asp Pro Pro Ser Ser Thr Val Gln Gln Gly Gln Asp	3025	3030	3035
			3040

Ala Ser Phe Lys Cys Leu Ile His Asp Gly Ala Ala Pro Ile Ser Leu
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 Glu Trp Lys Thr Arg Asn Gln Glu Leu Glu Asp Asn Val His Ile Ser
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 Pro Asn Gly Ser Ile Ile Thr Ile Val Gly Thr Arg Pro Ser Asn His
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 Gly Thr Tyr Arg Cys Val Ala Ser Asn Ala Tyr Gly Val Ala Gln Ser
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 Glu Gly Pro Val Trp Val Lys Val Gly Lys Ala Val Thr Leu Glu Cys
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 Val Ser Ala Gly Glu Pro Arg Ser Ser Ala Arg Trp Thr Arg Ile Ser
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 Tyr Val Cys Leu Ala Gln Asn Ala Leu Gly Thr Ala Gln Lys Gln Val
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 Lys Leu Arg Ser Pro Leu Pro Trp Gln His Arg Leu Glu Gly Asp Thr
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 Leu Ile Ile Pro Arg Val Ala Gln Gln Asp Ser Gly Gln Tyr Ile Cys
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 Asn Ala Thr Ser Pro Ala Gly His Ala Glu Ala Thr Ile Ile Leu His
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 Val Glu Ser Pro Pro Tyr Ala Thr Thr Val Pro Glu His Ala Ser Val
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 Pro Leu Thr Phe Gln Trp Ser Arg Val Gly Ser Ser Leu Pro Gly Arg
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 Ala Thr Ala Arg Asn Glu Leu Leu His Phe Glu Arg Ala Ala Pro Glu
 3345 3350 3355 3360

Asp Ser Gly Arg Tyr Arg Cys Arg Val Thr Asn Lys Val Gly Ser Ala
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 Glu Ala Phe Ala Gln Leu Leu Val Gln Gly Pro Pro Gly Ser Leu Pro
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 Ala Thr Ser Ile Pro Ala Gly Ser Thr Pro Thr Val Gln Val Thr Pro
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 Gln Leu Glu Thr Lys Ser Ile Gly Ala Ser Val Glu Phe His Cys Ala
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 Val Gln Pro Gln Asp Ala Gly Thr Tyr Val Cys Thr Ala Thr Asn Arg
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 Val Pro Tyr Phe Thr Gln Thr Pro Tyr Ser Phe Leu Pro Leu Pro Thr
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 Ile Lys Asp Ala Tyr Arg Lys Phe Glu Ile Lys Ile Thr Phe Arg Pro

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Gly Ser Pro Thr Asn Leu Ala Asn Arg Gln Pro Asp Phe Ile Ser Phe		
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Gly Leu Val Gly Gly Arg Pro Glu Phe Arg Phe Asp Ala Gly Ser Gly		
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Met Ala Thr Ile Arg His Pro Thr Pro Leu Ala Leu Gly His Phe His		
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Thr Val Thr Leu Leu Arg Ser Leu Thr Gln Gly Ser Leu Ile Val Gly		
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Asp Leu Ala Pro Val Asn Gly Thr Ser Gln Gly Lys Phe Gln Gly Leu		
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3940	3945	3950
Leu Arg Leu Asp Val Glu Phe Lys Pro Leu Ala Pro Asp Gly Val Leu		
3955	3960	3965
Leu Phe Ser Gly Gly Lys Ser Gly Pro Val Glu Asp Phe Val Ser Leu		
3970	3975	3980
Ala Met Val Gly Gly His Leu Glu Phe Arg Tyr Glu Leu Gly Ser Gly		
3985	3990	3995
Leu Ala Val Leu Arg Thr Ala Glu Pro Leu Ala Leu Gly Arg Trp His		
4005	4010	4015

Arg Val Ser Ala Glu Arg Leu Asn Lys Asp Gly Ser Leu Arg Val Asn
 4020 4025 4030
 Gly Gly Arg Pro Val Leu Arg Ser Ser Pro Gly Lys Ser Gln Gly Leu
 4035 4040 4045
 Asn Leu His Thr Leu Leu Tyr Leu Gly Gly Val Glu Pro Ser Val Pro
 4050 4055 4060
 Leu Ser Pro Ala Thr Asn Met Ser Ala His Phe Arg Gly Cys Val Gly
 4065 4070 4075 4080
 Glu Val Ser Val Asn Gly Lys Arg Leu Asp Leu Thr Tyr Ser Phe Leu
 4085 4090 4095
 Gly Ser Gln Gly Ile Gly Gln Cys Tyr Asp Ser Ser Pro Cys Glu Arg
 4100 4105 4110
 Gln Pro Cys Gln His Gly Ala Thr Cys Met Pro Ala Gly Glu Tyr Glu
 4115 4120 4125
 Phe Gln Cys Leu Cys Arg Asp Gly Ile Lys Gly Asp Leu Cys Glu His
 4130 4135 4140
 Glu Glu Asn Pro Cys Gln Leu Arg Glu Pro Cys Leu His Gly Gly Thr
 4145 4150 4155 4160
 Cys Gln Gly Thr Arg Cys Leu Cys Leu Pro Gly Phe Ser Gly Pro Arg
 4165 4170 4175
 Cys Gln Gln Gly Ser Gly His Gly Ile Ala Glu Ser Asp Trp His Leu
 4180 4185 4190
 Glu Gly Ser Gly Gly Asn Asp Ala Pro Gly Gln Tyr Gly Ala Tyr Phe
 4195 4200 4205
 His Asp Asp Gly Phe Leu Ala Phe Pro Gly His Val Phe Ser Arg Ser
 4210 4215 4220
 Leu Pro Glu Val Pro Glu Thr Ile Glu Leu Glu Val Arg Thr Ser Thr
 4225 4230 4235 4240
 Ala Ser Gly Leu Leu Leu Trp Gln Gly Val Glu Val Gly Glu Ala Gly
 4245 4250 4255
 Gln Gly Lys Asp Phe Ile Ser Leu Gly Leu Gln Asp Gly His Leu Val
 4260 4265 4270
 Phe Arg Tyr Gln Leu Gly Ser Gly Glu Ala Arg Leu Val Ser Glu Asp
 4275 4280 4285
 Pro Ile Asn Asp Gly Glu Trp His Arg Val Thr Ala Leu Arg Glu Gly
 4290 4295 4300
 Arg Arg Gly Ser Ile Gln Val Asp Gly Glu Glu Leu Val Ser Gly Arg
 4305 4310 4315 4320
 Ser Pro Gly Pro Asn Val Ala Val Asn Ala Lys Gly Ser Ile Tyr Ile
 4325 4330 4335

Gly Gly Ala Pro Asp Val Ala Thr Leu Thr Gly Gly Arg Phe Ser Ser
 4340 4345 4350

Gly Ile Thr Gly Cys Val Lys Asn Leu Val Leu His Ser Ala Arg Pro
 4355 4360 4365

Gly Ala Pro Pro Pro Gln Pro Leu Asp Leu Gln His Arg Ala Gln Ala
 4370 4375 4380

Gly Ala Asn Thr Arg Pro Cys Pro Ser
 4385 4390

<210> 2

<211> 195

<212> PRT

<213> Homo sapiens

<400> 2

Asp Ala Pro Gly Gln Tyr Gly Ala Tyr Phe His Asp Asp Gly Phe Leu
 1 5 10 15

Ala Phe Pro Gly His Val Phe Ser Arg Ser Leu Pro Glu Val Pro Glu
 20 25 30

Thr Ile Glu Leu Glu Val Arg Thr Ser Thr Ala Ser Gly Leu Leu Leu
 35 40 45

Trp Gln Gly Val Glu Val Gly Glu Ala Gly Gln Gly Lys Asp Phe Ile
 50 55 60

Ser Leu Gly Leu Gln Asp Gly His Leu Val Phe Arg Tyr Gln Leu Gly
 65 70 75 80

Ser Gly Glu Ala Arg Leu Val Ser Glu Asp Pro Ile Asn Asp Gly Glu
 85 90 95

Trp His Arg Val Thr Ala Leu Arg Glu Gly Arg Arg Gly Ser Ile Gln
 100 105 110

Val Asp Gly Glu Glu Leu Val Ser Gly Arg Ser Pro Gly Pro Asn Val
 115 120 125

Ala Val Asn Ala Lys Gly Ser Val Tyr Ile Gly Gly Ala Pro Asp Val
 130 135 140

Ala Thr Leu Thr Gly Gly Arg Phe Ser Ser Gly Ile Thr Gly Cys Val
 145 150 155 160

Lys Asn Leu Val Leu His Ser Ala Arg Pro Gly Ala Pro Pro Pro Gln
 165 170 175

Pro Leu Asp Leu Gln His Arg Ala Gln Ala Gly Ala Asn Thr Arg Pro
 180 185 190

Cys Pro Ser
 195

<210> 3

<211> 508

<212> PRT

<213> Homo sapiens

<400> 3

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Arg Thr Cys Arg Cys Lys Asn Asn Val Val Gly Arg Leu Cys Asn Glu
 1          5          10          15

Cys Ala Asp Arg Ser Phe His Leu Ser Thr Arg Asn Pro Asp Gly Cys
 20          25          30

Leu Lys Cys Phe Cys Met Gly Val Ser Arg His Cys Thr Ser Ser Ser
 35          40          45

Trp Ser Arg Ala Gln Leu His Gly Ala Ser Glu Glu Pro Gly His Phe
 50          55          60

Ser Leu Thr Asn Ala Ala Ser Thr His Thr Thr Asn Glu Gly Ile Phe
 65          70          75

Ser Pro Thr Pro Gly Glu Leu Gly Phe Ser Ser Phe His Arg Leu Leu
 85          90          95

Ser Gly Pro Tyr Phe Trp Ser Leu Pro Ser Arg Phe Leu Gly Asp Lys
100          105          110

Val Thr Ser Tyr Gly Gly Glu Leu Arg Phe Thr Val Thr Gln Arg Ser
115          120          125

Gln Pro Gly Ser Thr Pro Leu His Gly Gln Pro Leu Val Val Leu Gln
130          135          140

Gly Asn Asn Ile Ile Leu Glu His His Val Ala Gln Glu Pro Ser Pro
145          150          155

Gly Gln Pro Ser Thr Phe Ile Val Pro Phe Arg Glu Gln Ala Trp Gln
165          170          175

Arg Pro Asp Gly Gln Pro Ala Thr Arg Glu His Leu Leu Met Ala Leu
180          185          190

Ala Gly Ile Asp Thr Leu Leu Ile Arg Ala Ser Tyr Ala Gln Gln Pro
195          200          205

Ala Glu Ser Arg Leu Ser Gly Ile Ser Met Asp Val Ala Val Pro Glu
210          215          220

Glu Thr Gly Gln Asp Pro Ala Leu Glu Val Glu Gln Cys Ser Cys Pro
225          230          235

Pro Gly Tyr Leu Gly Pro Ser Cys Gln Asp Cys Asp Thr Gly Tyr Thr
245          250          255

Arg Thr Pro Ser Gly Leu Tyr Leu Gly Thr Cys Glu Arg Cys Ser Cys
260          265          270

His Gly His Ser Glu Ala Cys Glu Pro Glu Thr Gly Ala Cys Gln Gly
275          280          285

Cys Gln His His Thr Glu Gly Pro Arg Cys Glu Gln Cys Gln Pro Gly
290          295          300

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Tyr Tyr Gly Asp Ala Gln Arg Gly Thr Pro Gln Asp Cys Gln Leu Cys
 305 310 315 320
 Pro Cys Tyr Gly Asp Pro Ala Ala Gly Gln Ala Ala Leu Thr Cys Phe
 325 330 335
 Leu Asp Thr Asp Gly His Pro Thr Cys Asp Ala Cys Ser Pro Gly His
 340 345 350
 Ser Gly Arg His Cys Glu Arg Cys Ala Pro Gly Tyr Tyr Gly Asn Pro
 355 360 365
 Ser Gln Gly Gln Pro Cys Gln Arg Asp Ser Gln Val Pro Gly Pro Ile
 370 375 380
 Gly Cys Asn Cys Asp Pro Gln Gly Ser Val Ser Ser Gln Cys Asp Ala
 385 390 395 400
 Ala Gly Gln Cys Gln Cys Lys Ala Gln Val Glu Gly Leu Thr Cys Ser
 405 410 415
 His Cys Arg Pro His His Phe His Leu Ser Ala Ser Asn Pro Asp Gly
 420 425 430
 Cys Leu Pro Cys Phe Cys Met Gly Ile Thr Gln Gln Cys Ala Ser Ser
 435 440 445
 Ala Tyr Thr Arg His Leu Ile Ser Thr His Phe Ala Pro Gly Asp Phe
 450 455 460
 Gln Gly Phe Ala Leu Val Asn Pro Gln Arg Asn Ser Arg Leu Thr Gly
 465 470 475 480
 Glu Phe Thr Val Glu Pro Val Pro Glu Gly Ala Gln Leu Ser Phe Gly
 485 490 495
 Asn Phe Ala Gln Leu Gly His Glu Ser Phe Tyr Trp
 500 505

<210> 4
 <211> 199
 <212> PRT
 <213> Homo sapiens

<400> 4
 Met Lys Trp Val Trp Ala Leu Leu Leu Leu Ala Ala Trp Ala Ala Ala
 1 5 10 15
 Glu Arg Asp Cys Arg Val Ser Ser Phe Arg Val Lys Glu Asn Phe Asp
 20 25 30
 Lys Ala Arg Phe Ser Gly Thr Trp Tyr Ala Met Ala Lys Lys Asp Pro
 35 40 45
 Glu Gly Leu Phe Leu Gln Asp Asn Ile Val Ala Glu Phe Ser Val Asp
 50 55 60
 Glu Thr Gly Gln Met Ser Ala Thr Ala Lys Gly Arg Val Arg Leu Leu
 65 70 75 80

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<210> 5
<211> 199
<212> PRT
<213> Homo sapiens
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<400> 5
Met Lys Trp Val Trp Ala Leu Leu Leu Leu Ala Ala Trp Ala Ala Ala
  1      5      10      15
Glu Arg Asp Cys Arg Val Ser Ser Phe Arg Val Lys Glu Asn Phe Asp
      20      25      30
Lys Ala Arg Phe Ser Gly Thr Trp Tyr Ala Met Ala Lys Lys Asp Pro
      35      40      45
Glu Gly Leu Phe Leu Gln Asp Asn Ile Val Ala Glu Phe Ser Val Asp
      50      55      60
Glu Thr Gly Gln Met Ser Ala Thr Ala Lys Gly Arg Val Arg Leu Leu
      65      70      75      80
Asn Asn Trp Asp Val Cys Ala Asp Met Val Gly Thr Phe Thr Asp Thr
      85      90      95
Glu Asp Pro Ala Lys Phe Lys Met Lys Tyr Trp Gly Val Ala Ser Phe
      100      105      110
Leu Gln Lys Gly Asn Asp Asp His Trp Ile Val Asp Thr Asp Tyr Asp
      115      120      125
Thr Tyr Ala Val Gln Tyr Ser Cys Arg Leu Leu Asn Leu Asp Gly Thr
      130      135      140
Cys Ala Asp Ser Tyr Ser Phe Val Phe Ser Arg Asp Pro Asn Gly Leu
      145      150      155      160

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Pro Pro Glu Ala Gln Lys Ile Val Arg Gln Arg Gln Glu Glu Leu Cys
 165 170 175

Leu Ala Arg Gln Tyr Arg Leu Ile Val His Asn Gly Tyr Cys Asp Gly
 180 185 190

Arg Ser Glu Arg Asn Leu Leu
 195

<210> 6
 <211> 199
 <212> PRT
 <213> Homo sapiens

<400> 6
 Met Lys Trp Val Trp Ala Leu Leu Leu Leu Ala Ala Trp Ala Ala Ala
 1 5 10 15

Glu Arg Asp Cys Arg Val Ser Ser Phe Arg Val Lys Glu Asn Phe Asp
 20 25 30

Lys Ala Arg Phe Ser Gly Thr Trp Tyr Ala Met Ala Lys Lys Asp Pro
 35 40 45

Glu Gly Leu Phe Leu Gln Asp Asn Ile Val Ala Glu Phe Ser Val Asp
 50 55 60

Glu Thr Gly Gln Met Ser Ala Thr Ala Lys Gly Arg Val Arg Leu Leu
 65 70 75 80

Asn Asn Trp Asp Val Cys Ala Asp Met Val Gly Thr Phe Thr Asp Thr
 85 90 95

Glu Asp Pro Ala Lys Phe Lys Met Lys Tyr Trp Gly Val Ala Ser Phe
 100 105 110

Leu Gln Lys Gly Asn Asp Asp His Trp Ile Val Asp Thr Asp Tyr Asp
 115 120 125

Thr Tyr Ala Val Gln Tyr Ser Cys Arg Leu Leu Asn Leu Asp Gly Thr
 130 135 140

Cys Ala Asp Ser Tyr Ser Phe Val Phe Ser Arg Asp Pro Asn Gly Leu
 145 150 155 160

Pro Pro Glu Ala Gln Lys Ile Val Arg Gln Arg Gln Glu Glu Leu Cys
 165 170 175

Leu Ala Arg Gln Tyr Arg Leu Ile Val His Asn Gly Tyr Cys Asp Gly
 180 185 190

Arg Ser Glu Arg Asn Leu Leu
 195

<210> 7
 <211> 182
 <212> PRT
 <213> Homo sapiens

<400> 7

Glu Arg Asp Cys Arg Val Ser Ser Phe Arg Val Lys Glu Asn Phe Asp
 1 5 10 15
 Lys Ala Arg Phe Ser Gly Thr Trp Tyr Ala Met Ala Lys Lys Asp Pro
 20 25 30
 Glu Gly Leu Phe Leu Gln Asp Asn Ile Val Ala Glu Phe Ser Val Asp
 35 40 45
 Glu Thr Gly Gln Met Ser Ala Thr Ala Lys Gly Arg Val Arg Leu Leu
 50 55 60
 Asn Asn Trp Asp Val Cys Ala Asp Met Val Gly Thr Phe Thr Asp Thr
 65 70 75 80
 Glu Asp Pro Ala Lys Phe Lys Met Lys Tyr Trp Gly Val Ala Ser Phe
 85 90 95
 Leu Gln Lys Gly Asn Asp Asp His Trp Ile Val Asp Thr Asp Tyr Asp
 100 105 110
 Thr Tyr Ala Val Gln Tyr Ser Cys Arg Leu Leu Asn Leu Asp Gly Thr
 115 120 125
 Cys Ala Asp Ser Tyr Ser Phe Val Phe Ser Arg Asp Pro Asn Gly Leu
 130 135 140
 Pro Pro Glu Ala Gln Lys Ile Val Arg Gln Arg Gln Glu Glu Leu Cys
 145 150 155 160
 Leu Ala Arg Gln Tyr Arg Leu Ile Val His Asn Gly Tyr Cys Asp Gly
 165 170 175
 Arg Ser Glu Arg Asn Leu
 180

<210> 8

<211> 193

<212> PRT

<213> Homo sapiens

<400> 8

Met Gln Ser Leu Met Gln Ala Pro Leu Leu Ile Ala Leu Gly Leu Leu
 1 5 10 15
 Leu Ala Thr Pro Ala Gln Ala His Leu Lys Lys Pro Ser Gln Leu Ser
 20 25 30
 Ser Phe Ser Trp Asp Asn Cys Asp Glu Gly Lys Asp Pro Ala Val Ile
 35 40 45
 Arg Ser Leu Thr Leu Glu Pro Asp Pro Ile Val Val Pro Gly Asn Val
 50 55 60
 Thr Leu Ser Val Val Gly Ser Thr Ser Val Pro Leu Ser Ser Pro Leu
 65 70 75 80
 Lys Val Asp Leu Val Leu Glu Lys Glu Val Ala Gly Leu Trp Ile Lys
 85 90 95

Ile Pro Cys Thr Asp Tyr Ile Gly Ser Cys Thr Phe Glu His Phe Cys
 100 105 110
 Asp Val Leu Asp Met Leu Ile Pro Thr Gly Glu Pro Cys Pro Glu Pro
 115 120 125
 Leu Arg Thr Tyr Gly Leu Pro Cys His Cys Pro Phe Lys Glu Gly Thr
 130 135 140
 Tyr Ser Leu Pro Lys Ser Glu Phe Val Val Pro Asp Leu Glu Leu Pro
 145 150 155 160
 Ser Trp Leu Thr Thr Gly Asn Tyr Arg Ile Glu Ser Val Leu Ser Ser
 165 170 175
 Ser Gly Lys Arg Leu Gly Cys Ile Lys Ile Ala Ala Ser Leu Lys Gly
 180 185 190
 Ile

<210> 9
 <211> 193
 <212> PRT
 <213> Homo sapiens

<400> 9
 Met Gln Ser Leu Met Gln Ala Pro Leu Leu Ile Ala Leu Gly Leu Leu
 1 5 10 15
 Leu Ala Thr Pro Ala Gln Ala His Leu Lys Lys Pro Ser Gln Leu Ser
 20 25 30
 Ser Phe Ser Trp Asp Asn Cys Phe Glu Gly Lys Asp Pro Ala Val Ile
 35 40 45
 Arg Ser Leu Thr Leu Glu Pro Asp Pro Ile Val Val Pro Gly Asn Val
 50 55 60
 Thr Leu Ser Val Val Gly Ser Thr Ser Val Pro Leu Ser Ser Pro Leu
 65 70 75 80
 Lys Val Asp Leu Val Leu Glu Lys Glu Val Ala Gly Leu Trp Ile Lys
 85 90 95
 Ile Pro Cys Thr Asp Tyr Ile Gly Ser Cys Thr Phe Glu His Phe Cys
 100 105 110
 Asp Val Leu Asp Met Leu Ile Pro Thr Gly Glu Pro Cys Pro Glu Pro
 115 120 125
 Leu Arg Thr Tyr Gly Leu Pro Cys His Cys Pro Phe Lys Glu Gly Thr
 130 135 140
 Tyr Ser Leu Pro Lys Ser Glu Phe Ala Val Pro Asp Leu Glu Leu Pro
 145 150 155 160
 Ser Trp Leu Thr Thr Gly Asn Tyr Arg Ile Glu Ser Val Leu Ser Ser
 165 170 175

Ser Gly Lys Arg Leu Gly Cys Ile Lys Ile Ala Ala Ser Leu Lys Gly
 180 185 190

Ile

<210> 10
 <211> 178
 <212> PRT
 <213> Homo sapiens

<400> 10
 Leu Leu Ala Thr Pro Ala Gln Ala His Leu Lys Lys Pro Ser Gln Leu
 1 5 10 15
 Ser Ser Phe Ser Trp Asp Asn Cys Asp Glu Gly Lys Asp Pro Ala Val
 20 25 30
 Ile Arg Ser Leu Thr Leu Glu Pro Asp Pro Ile Val Val Pro Gly Asn
 35 40 45
 Val Thr Leu Ser Val Val Gly Ser Thr Ser Val Pro Leu Ser Ser Pro
 50 55 60
 Leu Lys Val Asp Leu Val Leu Glu Lys Glu Val Ala Gly Leu Trp Ile
 65 70 75 80
 Lys Ile Pro Cys Thr Asp Tyr Ile Gly Ser Cys Thr Phe Glu His Phe
 85 90 95
 Cys Asp Val Leu Asp Met Leu Ile Pro Thr Gly Glu Pro Cys Pro Glu
 100 105 110
 Pro Leu Arg Thr Tyr Gly Leu Pro Cys His Cys Pro Phe Lys Glu Gly
 115 120 125
 Thr Tyr Ser Leu Pro Lys Ser Glu Phe Val Val Pro Asp Leu Glu Leu
 130 135 140
 Pro Ser Trp Leu Thr Thr Gly Asn Tyr Arg Ile Glu Ser Val Leu Ser
 145 150 155 160
 Ser Ser Gly Lys Arg Leu Gly Cys Ile Lys Ile Ala Ala Ser Leu Lys
 165 170 175

Gly Ile

<210> 11
 <211> 200
 <212> PRT
 <213> Homo sapiens

<400> 11
 Arg Ala Gly Pro Pro Phe Pro Met Gln Ser Leu Met Gln Ala Pro Leu
 1 5 10 15
 Leu Ile Ala Leu Gly Leu Leu Leu Ala Ala Pro Ala Gln Ala His Leu

20					25					30					
Lys	Lys	Pro	Ser	Gln	Leu	Ser	Ser	Phe	Ser	Trp	Asp	Asn	Cys	Asp	Glu
		35					40					45			
Gly	Lys	Asp	Pro	Ala	Val	Ile	Arg	Ser	Leu	Thr	Leu	Glu	Pro	Asp	Pro
	50					55					60				
Ile	Ile	Val	Pro	Gly	Asn	Val	Thr	Leu	Ser	Val	Met	Gly	Ser	Thr	Ser
65					70					75					80
Val	Pro	Leu	Ser	Ser	Pro	Leu	Lys	Val	Asp	Leu	Val	Leu	Glu	Lys	Glu
				85					90					95	
Val	Ala	Gly	Leu	Trp	Ile	Lys	Ile	Pro	Cys	Thr	Asp	Tyr	Ile	Gly	Ser
			100					105					110		
Cys	Thr	Phe	Glu	His	Phe	Cys	Asp	Val	Leu	Asp	Met	Leu	Ile	Pro	Thr
		115					120					125			
Gly	Glu	Pro	Cys	Pro	Glu	Pro	Leu	Arg	Thr	Tyr	Gly	Leu	Pro	Cys	His
	130					135					140				
Cys	Pro	Phe	Lys	Glu	Gly	Thr	Tyr	Ser	Leu	Pro	Lys	Ser	Glu	Phe	Val
145					150				155						160
Val	Pro	Asp	Leu	Glu	Leu	Pro	Ser	Trp	Leu	Thr	Thr	Gly	Asn	Tyr	Arg
				165					170					175	
Ile	Glu	Ser	Val	Leu	Ser	Ser	Ser	Gly	Lys	Arg	Leu	Gly	Cys	Ile	Lys
			180					185					190		
Ile	Ala	Ala	Ser	Leu	Lys	Gly	Ile								
		195					200								

<210> 12
 <211> 189
 <212> PRT
 <213> Homo sapiens

<400> 12
 Met Gln Ala Pro Leu Leu Ile Ala Leu Gly Leu Leu Leu Ala Thr Pro
 1 5 10 15
 Ala Gln Ala His Leu Lys Lys Pro Ser Gln Leu Ser Ser Phe Ser Trp
 20 25 30
 Asp Asn Cys Asp Glu Gly Lys Asp Pro Ala Val Ile Arg Ser Leu Thr
 35 40 45
 Leu Glu Pro Asp Pro Ile Val Val Pro Gly Asn Val Thr Leu Ser Val
 50 55 60
 Val Gly Ser Thr Ser Val Pro Leu Ser Ser Pro Leu Lys Val Asp Leu
 65 70 75 80
 Val Leu Glu Lys Glu Val Ala Gly Leu Trp Ile Lys Ile Pro Cys Thr
 85 90 95
 Asp Tyr Ile Gly Ser Cys Thr Phe Glu His Phe Cys Asp Val Leu Asp

	100		105		110										
Met	Leu	Ile	Pro	Thr	Gly	Glu	Pro	Cys	Pro	Glu	Pro	Leu	Arg	Thr	Tyr
	115						120					125			
Gly	Leu	Pro	Cys	His	Cys	Pro	Phe	Lys	Glu	Gly	Thr	Tyr	Ser	Leu	Pro
	130					135					140				
Lys	Ser	Glu	Phe	Val	Val	Pro	Asp	Leu	Glu	Leu	Pro	Ser	Trp	Leu	Thr
145					150					155					160
Thr	Gly	Asn	Tyr	Arg	Ile	Glu	Ser	Val	Leu	Ser	Ser	Ser	Gly	Lys	Arg
				165					170					175	
Leu	Gly	Cys	Ile	Lys	Ile	Ala	Ala	Ser	Leu	Lys	Gly	Ile			
	180							185							

<210> 13
 <211> 193
 <212> PRT
 <213> Homo sapiens

<400> 13
Met Gln Ser Leu Met Gln Ala Pro Leu Leu Ile Ala Leu Gly Leu Leu
1 5 10 15
Leu Ala Thr Pro Ala Gln Ala His Leu Lys Lys Pro Ser Gln Leu Ser
20 25 30
Ser Phe Ser Trp Asp Asn Cys Asp Glu Gly Lys Asp Pro Ala Val Ile
35 40 45
Arg Ser Leu Thr Leu Glu Pro Asp Pro Ile Val Val Pro Gly Asn Val
50 55 60
Thr Leu Ser Val Val Gly Ser Thr Ser Val Pro Leu Ser Ser Pro Leu
65 70 75 80
Lys Val Asp Leu Val Leu Glu Lys Glu Val Ala Gly Leu Trp Ile Lys
85 90 95
Ile Pro Cys Thr Asp Tyr Ile Gly Ser Cys Thr Phe Glu His Phe Cys
100 105 110
Asp Val Leu Asp Met Leu Ile Pro Thr Gly Glu Pro Cys Pro Glu Pro
115 120 125
Leu Arg Thr Tyr Gly Leu Pro Cys His Cys Pro Phe Lys Glu Gly Thr
130 135 140
Tyr Ser Leu Pro Lys Ser Glu Phe Val Val Pro Asp Leu Glu Leu Pro
145 150 155 160
Ser Trp Leu Thr Thr Gly Asn Tyr Arg Ile Glu Ser Val Leu Ser Ser
165 170 175
Ser Gly Lys Arg Leu Gly Cys Ile Lys Ile Ala Ala Ser Leu Lys Gly
180 185 190

Ile

<210> 14
 <211> 193
 <212> PRT
 <213> Homo sapiens

<400> 14
 Met Gln Ser Leu Met Gln Ala Pro Leu Leu Ile Ala Leu Gly Leu Leu
 1 5 10 15
 Leu Ala Thr Pro Ala Gln Ala His Leu Lys Lys Pro Ser Gln Leu Ser
 20 25 30
 Ser Phe Ser Trp Asp Asn Cys Asp Glu Gly Lys Asp Pro Ala Val Ile
 35 40 45
 Arg Ser Leu Thr Leu Glu Pro Asp Pro Ile Val Val Pro Gly Asn Val
 50 55 60
 Thr Leu Ser Val Val Gly Ser Thr Ser Val Pro Leu Ser Ser Pro Leu
 65 70 75 80
 Lys Val Asp Leu Val Leu Glu Lys Glu Val Ala Gly Leu Trp Ile Lys
 85 90 95
 Ile Pro Cys Thr Asp Tyr Ile Gly Ser Cys Thr Phe Glu His Phe Cys
 100 105 110
 Asp Val Leu Asp Met Leu Ile Pro Thr Gly Glu Pro Cys Pro Glu Pro
 115 120 125
 Leu Arg Thr Tyr Gly Leu Pro Cys His Cys Pro Phe Lys Glu Gly Thr
 130 135 140
 Tyr Ser Leu Pro Lys Ser Glu Phe Val Val Pro Asp Leu Glu Leu Pro
 145 150 155 160
 Ser Trp Leu Thr Thr Gly Asn Tyr Arg Ile Glu Ser Val Leu Ser Ser
 165 170 175
 Ser Gly Lys Arg Leu Gly Cys Ile Lys Ile Ala Ala Ser Leu Lys Gly
 180 185 190
 Ile

<210> 15
 <211> 193
 <212> PRT
 <213> Homo sapiens

<400> 15
 Met Gln Ser Leu Met Gln Ala Pro Leu Leu Ile Ala Leu Gly Leu Leu
 1 5 10 15
 Leu Ala Thr Pro Ala Gln Ala His Leu Lys Lys Pro Ser Gln Leu Ser
 20 25 30

```

<400> 16
Met Gln Ser Leu Met Gln Ala Pro Leu Leu Ile Ala Leu Gly Leu Leu
  1          5          10          15

Leu Ala Thr Pro Ala Gln Ala His Leu Lys Lys Pro Ser Gln Leu Ser
      20          25          30

Ser Phe Ser Trp Asp Asn Cys Asp Glu Gly Lys Asp Pro Ala Val Ile
      35          40          45

Arg Ser Leu Thr Leu Glu Pro Asp Pro Ile Val Val Pro Gly Asn Val
      50          55          60

Thr Leu Ser Val Val Gly Ser Thr Ser Val Pro Leu Ser Ser Pro Leu
  65          70          75          80

Lys Val Asp Leu Val Leu Glu Lys Glu Val Ala Gly Leu Trp Ile Lys
      85          90          95

Ile Pro Cys Thr Asp Tyr Ile Gly Ser Cys Thr Phe Glu His Phe Cys
      100          105          110

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Asp Val Leu Asp Met Leu Ile Pro Thr Gly Glu Pro Cys Pro Glu Pro
 115 120 125
 Leu Arg Thr Tyr Gly Leu Pro Cys His Cys Pro Phe Lys Glu Gly Thr
 130 135 140
 Tyr Ser Leu Pro Lys Ser Glu Phe Val Val Pro Asp Leu Glu Leu Pro
 145 150 155 160
 Ser Trp Leu Thr Thr Gly Asn Tyr Arg Ile Glu Ser Val Leu Ser Ser
 165 170 175
 Ser Gly Lys Arg Leu Gly Cys Ile Lys Ile Ala Ala Ser Leu Lys Gly
 180 185 190
 Ile

<210> 17
 <211> 114
 <212> PRT
 <213> Homo sapiens

<400> 17
 Met Thr Cys Lys Met Ser Gln Leu Glu Arg Asn Ile Glu Thr Ile Ile
 1 5 10 15
 Asn Thr Phe His Gln Tyr Ser Val Lys Leu Gly His Pro Asp Thr Leu
 20 25 30
 Asn Gln Gly Glu Phe Lys Glu Leu Val Arg Lys Asp Leu Gln Asn Phe
 35 40 45
 Leu Lys Lys Glu Asn Lys Asn Glu Lys Val Ile Glu His Ile Met Glu
 50 55 60
 Asp Leu Asp Thr Asn Ala Asp Lys Gln Leu Ser Phe Glu Glu Phe Ile
 65 70 75 80
 Met Leu Met Ala Arg Leu Thr Trp Ala Ser His Glu Lys Met His Glu
 85 90 95
 Gly Asp Glu Gly Pro Gly His His His Lys Pro Gly Leu Gly Glu Gly
 100 105 110
 Thr Pro

<210> 18
 <211> 93
 <212> PRT
 <213> Homo sapiens

<400> 18
 Met Leu Thr Glu Leu Glu Lys Ala Leu Asn Ser Ile Ile Asp Val Tyr
 1 5 10 15
 His Lys Tyr Ser Leu Ile Lys Gly Asn Phe His Ala Val Tyr Arg Asp
 20 25 30

```

<400> 20
Met Thr Lys Leu Glu Glu His Leu Glu Gly Ile Val Asn Ile Phe His
  1              5              10              15
Gln Tyr Ser Val Arg Lys Gly His Phe Asp Thr Leu Ser Lys Gly Glu
          20              25              30
Leu Lys Gln Leu Leu Thr Lys Glu Leu Ala Asn Thr Ile Lys Asn Ile
          35              40              45
Lys Asp Lys Ala Val Ile Asp Glu Ile Phe Gln Gly Leu Asp Ala Asn
          50              55              60
Gln Asp Glu Gln Val Asp Phe Gln Glu Phe Ile Ser Leu Val Ala Ile
          65              70              75              80
Ala Leu Lys Ala Ala His Tyr His Thr His Lys Glu

```

85

90

<210> 21
 <211> 91
 <212> PRT
 <213> Homo sapiens

<400> 21
 Thr Lys Leu Glu Glu His Leu Glu Gly Ile Val Asn Ile Phe His Gln
 1 5 10 15
 Tyr Ser Val Arg Lys Gly His Phe Asp Thr Leu Ser Lys Gly Glu Leu
 20 25 30
 Lys Gln Leu Leu Thr Lys Glu Leu Ala Asn Thr Ile Lys Asn Ile Lys
 35 40 45
 Asp Lys Ala Val Ile Asp Glu Ile Phe Gln Gly Leu Asp Ala Asn Gln
 50 55 60
 Asp Glu Gln Val Asp Phe Gln Glu Phe Ile Ser Leu Val Ala Ile Ala
 65 70 75 80
 Leu Lys Ala Ala His Tyr His Thr His Lys Glu
 85 90

<210> 22
 <211> 93
 <212> PRT
 <213> Homo sapiens

<400> 22
 Met Leu Thr Glu Leu Glu Lys Ala Leu Asn Ser Ile Ile Asp Val Tyr
 1 5 10 15
 His Lys Tyr Ser Leu Ile Lys Gly Asn Phe His Ala Val Tyr Arg Asp
 20 25 30
 Asp Leu Lys Lys Leu Leu Glu Thr Glu Cys Pro Gln Tyr Ile Arg Lys
 35 40 45
 Lys Gly Ala Asp Val Trp Phe Lys Glu Leu Asp Ile Asn Thr Asp Gly
 50 55 60
 Ala Val Asn Phe Gln Glu Phe Leu Ile Leu Val Ile Lys Met Gly Val
 65 70 75 80
 Ala Ala His Lys Lys Ser His Glu Glu Ser His Lys Glu
 85 90

<210> 23
 <211> 92
 <212> PRT
 <213> Homo sapiens

<400> 23
 Met Thr Lys Leu Glu Glu His Leu Glu Gly Ile Val Asn Ile Phe His
 1 5 10 15

Gln Tyr Ser Val Arg Lys Gly His Phe Asp Thr Leu Ser Lys Gly Glu
 20 25 30
 Leu Lys Gln Leu Leu Thr Lys Glu Leu Ala Asn Thr Ile Lys Asn Ile
 35 40 45
 Lys Asp Lys Ala Val Ile Asp Glu Ile Phe Gln Gly Leu Asp Ala Asn
 50 55 60
 Gln Asp Glu Gln Val Asp Phe Gln Glu Phe Ile Ser Leu Val Ala Ile
 65 70 75 80
 Ala Leu Lys Ala Ala His Tyr His Thr His Lys Glu
 85 90

<210> 24
 <211> 85
 <212> PRT
 <213> Homo sapiens

<400> 24
 Asp Asn Gly Asp Val Cys Gln Asp Cys Ile Gln Met Val Thr Asp Ile
 1 5 10 15
 Gln Thr Ala Val Arg Thr Asn Ser Thr Phe Val Gln Ala Leu Val Glu
 20 25 30
 His Val Lys Glu Glu Cys Asp Arg Leu Gly Pro Gly Met Ala Asp Ile
 35 40 45
 Cys Lys Asn Tyr Ile Ser Gln Tyr Ser Glu Ile Ala Ile Gln Met Met
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 Phe Cys Asp Glu Val
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 Cys Arg Ala Leu Gly His Cys Leu Gln Glu Val Trp Gly His Val Gly
 50 55 60
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Lys Met Ala Lys	Glu Ala Ile Phe Gln Asp Thr Met Arg Lys Phe Leu					
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Glu Gln Glu Cys Asn Val Leu Pro Leu Lys Leu Leu Met Pro Gln Cys						
	100			105		110
Asn Gln Val Leu Asp Asp Tyr Phe Pro Leu Val Ile Asp Tyr Phe Gln						
	115			120		125
Asn Gln Ile Asp Ser Asn Gly Ile Cys Met His Leu Gly Leu Cys Lys						
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Ser Arg Gln Pro Glu Pro Glu Gln Glu Pro Gly Met Ser Asp Pro Leu						
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Pro Lys Pro Leu Arg Asp Pro Leu Pro Asp Pro Leu Leu Asp Lys Leu						
	165			170		175
Val Leu Pro Val Leu Pro Gly Ala Leu Gln Ala Arg Pro Gly Pro His						
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Thr Gln Asp Leu Ser Glu Gln Gln Phe Pro Ile Pro Leu Pro Tyr Cys						
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Trp Leu Cys Arg Ala Leu Ile Lys Arg Ile Gln Ala Met Ile Pro Lys						
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Gly Ala Leu Arg Val Ala Val Ala Gln Val Cys Arg Val Val Pro Leu						
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Val Ala Gly Gly Ile Cys Gln Cys Leu Ala Glu Arg Tyr Ser Val Ile						
	245			250		255
Leu Leu Asp Thr Leu Leu Gly Arg Met Leu Pro Gln Leu Val Cys Arg						
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Leu Val Leu Arg Cys Ser Met Asp Asp Ser Ala Gly Pro Arg Ser Pro						
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Thr Gly Glu Trp Leu Pro Arg Asp Ser Glu Cys His Leu Cys Met Ser						
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Val Thr Thr Gln Ala Gly Asn Ser Ser Glu Gln Ala Ile Pro Gln Ala						
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Met Leu Gln Ala Cys Val Gly Ser Trp Leu Asp Arg Glu Lys Cys Lys						
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Gln Phe Val Glu Gln His Thr Pro Gln Leu Leu Thr Leu Val Pro Arg						
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Met Ser Ser Pro Leu Gln Cys Ile His Ser Pro Asp Leu						
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Cys Arg Ala Leu Gly His Cys Leu Gln Glu Val Trp Gly His Val Gly
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Ala Asp Asp Leu Cys Gln Glu Cys Glu Asp Ile Val His Ile Leu Asn
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Lys Met Ala Lys Glu Ala Ile Phe Gln Asp Thr Met Arg Lys Phe Leu
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Glu Gln Glu Cys Asn Val Leu Pro Leu Lys Leu Leu Met Pro Gln Cys
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Asn Gln Val Leu Asp Asp Tyr Phe Pro Leu Val Ile Asp Tyr Phe Gln
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Asn Gln Thr Asp Ser Asn Gly Ile Cys Met His Leu Gly Cys Lys Ser
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Arg Gln Pro Glu Pro Glu Gln Glu Pro Gly Met Ser Asp Pro Leu Pro
 145             150             155             160

Lys Pro Leu Arg Asp Pro Leu Pro Asp Pro Leu Leu Asp Lys Leu Val
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Leu Pro Val Leu Pro Gly Ala Leu Gln Ala Arg Pro Gly Pro His Thr
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Gln Asp Leu Ser Glu Gln Gln Phe Pro Ile Pro Leu Pro Tyr Cys Trp
 195             200             205

Cys Arg Ala Leu Ile Lys Arg Ile Gln Ala Met Ile Pro Lys Gly Ala
 210             215             220

Leu Arg Val Ala Val Ala Gln Val Cys Arg Val Val Pro Leu Val Ala
 225             230             235             240

Gly Gly Ile Cys Gln Cys Leu Ala Glu Arg Tyr Ser Val Ile Leu Leu
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Asp Thr Leu Leu Gly Arg Met Leu Pro Gln Leu Val Cys Arg Leu Val
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Leu Arg Cys Ser Met Asp Asp Ser Ala Gly Pro Arg Ser Pro Thr Gly
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Glu Trp Leu Pro Arg Asp Ser Glu Cys His Leu Cys Met Ser Val Thr
 290             295             300

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Gln Ala Cys Val Gly Ser Trp Leu Asp Arg Glu Lys Cys Lys Gln Phe
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Val Glu Gln His Thr Pro Gln Leu Leu Thr Leu Val Pro Arg Gly Trp
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Ser Pro Leu Gln Cys Ile His Ser Pro Asp Leu
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35 40 45

Leu Gln Thr Val Trp Asn Lys Pro Thr Val Lys Ser Leu Pro Cys Asp
50 55 60

Ile Cys Lys Asp Val Val Thr Ala Ala Gly Asp Met Leu Lys Asp Asn
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Tyr Leu Pro Val Ile Leu Asp Ile Ile Lys Gly Glu Met Ser Arg Pro
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Gly Glu Val Cys Ser Ala Leu Asn Leu Cys Glu Ser Leu Gln Lys His
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Leu Ala Glu Leu Asn His Gln Lys Gln Leu Glu Ser Asn Lys Ile Pro
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Glu Leu Asp Met Thr Glu Val Val Ala Pro Phe Met Ala Asn Ile Pro
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Leu Leu Leu Tyr Pro Gln Asp Gly Pro Arg Ser Lys Pro Gln Pro Lys
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 405 410 415
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 435 440 445
 Pro Tyr Gln Lys Gln Cys Asp Gln Phe Val Ala Glu Tyr Glu Pro Val
 450 455 460
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 Lys Ile Gly Ala Cys Pro Ser Ala His Lys Pro Leu Leu Gly Thr Glu
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 Ile Cys Lys Asp Val Val Thr Ala Ala Gly Asp Met Leu Lys Asp Asn
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 Ala Thr Glu Glu Glu Ile Leu Val Tyr Leu Glu Lys Thr Cys Asp Trp
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 Leu Pro Lys Pro Asn Met Ser Ala Ser Cys Lys Glu Ile Val Asp Ser
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 Tyr Leu Pro Val Ile Leu Asp Ile Ile Lys Gly Glu Met Ser Arg Pro
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 Leu Leu Tyr Pro Gln Asp Gly Pro Arg Ser Lys Pro Gln Pro Lys Asp
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 Thr Ala Val Arg Thr Asn Ser Thr Phe Val Gln Ala Leu Val Glu His
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 Val Lys Glu Glu Cys Asp Arg Leu Gly Pro Gly Met Ala Asp Ile Cys
 225 230 235 240
 Lys Asn Tyr Ile Ser Gln Tyr Ser Glu Ile Ala Ile Gln Met Met Met
 245 250 255
 His Met Gln Pro Lys Glu Ile Cys Ala Leu Val Gly Phe Cys Asp Glu
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 35 40 45

Cys Arg Ala Leu Gly His Cys Leu Gln Glu Val Trp Gly His Val Gly
 50 55 60
 Ala Asp Asp Leu Cys Gln Glu Cys Glu Asp Ile Val His Ile Leu Asn
 65 70 75 80
 Lys Met Ala Lys Glu Ala Ile Phe Gln Asp Thr Met Arg Lys Phe Leu
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 Glu Gln Glu Cys Asn Val Leu Pro Leu Lys Leu Leu Met Pro Gln Cys
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 Asn Gln Val Leu Asp Asp Tyr Phe Pro Leu Val Ile Asp Tyr Phe Gln
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 Lys Pro Leu Arg Asp Pro Leu Pro Asp Pro Leu Leu Asp Lys Leu Val
 165 170 175
 Leu Pro Val Leu Pro Gly Ala Leu Gln Ala Arg Pro Gly Pro His Thr
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 Gln Asp Leu Ser Glu Gln Gln Phe Pro Ile Pro Leu Pro Tyr Cys Trp
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 Leu Cys Arg Ala Leu Ile Lys Arg Ile Gln Ala Met Ile Pro Lys Gly
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 Ala Leu Ala Val Ala Val Ala Gln Val Cys Arg Val Val Pro Leu Val
 225 230 235 240
 Ala Gly Gly Ile Cys Gln Cys Leu Ala Glu Arg Tyr Ser Val Ile Leu
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 Val Leu Arg Cys Ser Met Asp Asp Ser Ala Gly Pro Arg Ser Pro Thr
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 Gly Glu Trp Leu Pro Arg Asp Ser Glu Cys His Leu Cys Met Ser Val
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 Leu Gln Ala Cys Val Gly Ser Trp Leu Asp Arg Glu Lys Cys Lys Gln
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 Phe Val Glu Gln His Thr Pro Gln Leu Leu Thr Leu Val Pro Arg Gly
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garggnaarg ayccngcngt nathmgwnsn ytnacnytn g'arccngaycc nathgtngtn 180
ccnggnaayg tnacnytnws ngtngtnggn wsnacnwsng tnccnytnws nwsnccnytn 240
aargtngayy tngtnytn gaargargtn gcnggnytn ggathaarat hccntgyacn 300
gaytayathg gnwsntgyac nttygarca ytttygygay tnytn gayat gytnathccn 360
acnggngarc cntgyccnga rccnytnmgn acntayggny tnccntgyca ytgycntty 420
aargarggna cntaywsny nccnaarwsn garttygtng tnccngayt ngarytnccn 480
wsntgggyna cnacnggnaa ytaymgnath garwsngtny tnwsnwsnws nggnaarmgn 540
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<211> 633

<212> DNA

<213> Homo sapiens

<400> 32

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<210> 33

<211> 1047

<212> DNA

<213> Homo sapiens

<400> 33

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tctcctctga aggtgagcct ggggggtggg ggagaagggg aggtgcgagg gtctggccag 600
caggggtact ggggcatgta tgcttgggga actgtgaaga atttcagaat cctggattcc 660
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<210> 34
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<212> DNA
<213> Homo sapiens

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aggctgcagt gagtgcagtg agccatgata caaaaaaaaa aaataaagaa ttctaagtct 360
atgtatagtt cagtgtaggg ggaaaattca catttgatta ttaatgtctg ccatggggcac 420
aataatacac tatactcaca catggggccac aatgttgcca ttcctagaac agactatctc 480
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<210> 35
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<212> DNA
<213> Homo sapiens

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ctgttaacct tgcaccttac tcctgacccc cactccttat gtcccccattg ataaggcctg 540

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 <211> 1047
 <212> DNA
 <213> Homo sapiens

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<210> 37
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 <212> DNA
 <213> Homo sapiens

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 aagtgagccc catctctaca aaaaatacaa aattagctgg gtgtggtggc atgtgcctgt 240
 ctgtgtttcc cacctacatg ggaggctgag gcaggaggat cgtctgagcc caggagtttg 300
 aggctgcagt gagtgcagtg agccatgata caaaaaaaa aaataaagaa ttctaagtct 360
 atgtatagtt cagtgtaggg ggaaaattca catttgatta ttaatgtctg ccatgggcac 420
 aataatacac tatactcaca catgggccac aatgttgcca ttctagaac agactatctc 480
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 gaagagctgg tatgtttgcc ctggaattta cacttataac ctttttcaaa cttttgtttt 600
 attttttttt accaggtgga tttagttttg gagaaggagg tggctggcct ctggatcaag 660
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<210> 38
<211> 1043
<212> DNA
<213> Homo sapiens

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atgcccttgg gcttgcttct cgcgaccctt gcgcaagccc acctgaaaaa gccatcccag 180
ctcagtagct tttcctggga taactgtgat gaagggaagg acctgcggt gatcagaagc 240
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<210> 39
<211> 1047
<212> DNA
<213> Homo sapiens

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<213> Homo sapiens

<400> 40

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<211> 342
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<213> Homo sapiens

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<222> 342

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cayathatgg	argayytnga	yacnaaygcn	qayaarcary	tnwsnttyga	rgartlyath	240
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<210> 43

<211> 4195

<212> DNA

<213> Homo sapiens

<400> 43

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<212> DNA
<213> Homo sapiens

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tcatgcagct tctcatgaca ggcaaagatc aactttgcca tcagcatcat acactcctca 240
aagctcagct gattgtcctg gtttgtgtcc aggtcctcca tgatgtcatt tatgagggt 300

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<210> 45
<211> 406
<212> DNA
<213> Homo sapiens

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<400> 45
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<211> 425
<212> DNA
<213> Homo sapiens

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<220>
<221> misc_feature

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<222> 417
<223> n is a or g or c or t

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<400> 46
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ttccc 425

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<210> 47
<211> 565
<212> DNA
<213> Homo sapiens

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<400> 47
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<210> 48
 <211> 430
 <212> DNA
 <213> Homo sapiens

<400> 48
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<210> 49
 <211> 305
 <212> DNA
 <213> Homo sapiens

<400> 49
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